



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,194	01/21/2004	Kia Silverbrook	MPA19US	2173
24011 7590 09/03/2008 SILVERBROOK RESEARCH PTY LTD 393 DARLING STREET BALMAIN, 2041 AUSTRALIA				
EXAMINER UHLENHAKE, JASON S				
ART UNIT 2853		PAPER NUMBER		
MAIL DATE 09/03/2008		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/760,194

Applicant(s)

SILVERBROOK ET AL.

Examiner

JASON S. UHLENHAKE

Art Unit

2853

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
- Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/19/2008 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being obvious over Silverbrook (U.S. Pub. 2004/0135848) in view of Ishikawa (U.S. Pat. 6,618,068).

Silverbrook ('848) discloses:

- ***regarding claim 1***, at least one print head module (Abstract; Paragraph 0018), and at least two flexible printed circuit boards for connecting electrical signals to the at least two print head integrated circuits, each flexible printed circuit board having a connecting portion (Paragraphs 20, 97, 109)

- at least one print head module comprising at least two print head integrated circuits (Paragraph 16-18), each of which has nozzles formed therein for delivering printing fluid onto the surface of print media (Paragraph 18) and one support member (Paragraph 17) supporting and carrying the printing fluid for the at least two print head integrated circuits

- drive electronics incorporating at least one controller which is connected to at least one of the at least two print head integrated circuits via the respective flexible printed circuit board (58 of Figure 14) for controlling the printing operation of at least one of the at least two print head integrated circuits (Paragraphs 20, 60-63, 65)

- a casing (housing) in which the at least one print head module and the drive electronics are removably mounted (Paragraph 75); the casing is configured to allow movement of the connected print head module, flexible printed circuit board and drive electronics printed circuit board along the casing (Figure 4; Abstract; Paragraphs 16, 18, 53). The print head assembly (14) which includes print head modules, flexible circuit boards and drive electronics are disclosed as being either removable or mounted within the print head assembly (14), therefore the print head module, flexible printed circuit board and drive electronics are allowed movement along the casing. (i.e. when removing or mounting the modules and circuit boards in the casing/housing)

- wherein the drive electronics is provided on a printed circuit board carrying respective connection ports for receiving, and connecting (interconnects) with, corresponding connecting portions of the flexible printed circuit boards (58) are aligned with the respective connection ports (Figures 8-9; Paragraphs 20, 97, 109)

- **regarding claim 2**, wherein the printed circuit board of the drive electronics is supported by a support frame of the casing (Abstract, Paragraphs 14-17)
- **regarding claim 3**, comprising a plurality of longitudinally extending electrical conductors removably mounted to the support frame and arranged to provide power from a power supply to the drive electronics and the at least two print head integrated circuits (Paragraphs 68-69)
- **regarding claim 4**, wherein power from the plurality of electrical conductors (68 of Figure 8) is delivered to the drive electronics and the print head integrated circuits via the respective flexible printed circuit boards (58 of Figure 8; Paragraphs 66, 68)
- **regarding claim 5**, at least on print head module formed as a unitary arrangement of at least two print head integrated circuits (Paragraphs 18-21)
- support member, the at least two flexible printed circuit boards, at least one fluid distribution member mounting the at least two print head integrated circuits to the support member (Paragraphs 16-21)
- the support member has at least one longitudinally extending channel (62 of Figure 1) for carrying the printing fluid for the print head integrated circuits (Paragraphs 22-23), plurality of apertures extending through a wall of the support member arranged so as to direct the printing fluid from the at least one channel to associated nozzles in both , or if more than two, all of the print head integrated circuits by way of respective ones of the fluid distribution members (Paragraphs 17, 20-23)

- **regarding claim 6**, support member incorporates lugs which cooperate with recesses of the casing so as to provide direct alignment of the connecting portions and connecting ports (157 of Figure 6)

Silverbrook ('848) does not disclose expressly the following:

- **regarding claim 1**, each circuit board having a connecting portion; a printed circuit board carrying respective slotted connection ports for receiving, and connecting with the corresponding connecting portions of the circuit boards, the connecting portions being configured to slot within the slotted connection ports

Ishikawa discloses:

- **regarding claim 1**, each circuit board (22b) having a connecting portion (23); a printed circuit board (22a) carrying respective slotted connection ports for receiving, and connecting with the corresponding connecting portions of the circuit boards, the connecting portions being configured to slot within the slotted connection ports (Figure 4; Column 8, Lines 44-61), for the purpose of the design being compact and lightweight

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Ishikawa into the device of Silverbrook ('848), for the purpose of easily removing and replacing any defective modules, providing a scanning head which can be uniformly held in contact with a platen, and the design being compact and lightweight.

Response to Arguments

Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection. The housing/casing of Silverbrook ('848) allows movement of the print head module, flexible printed circuit board and drive electronics since all are disclosed as being either removable or mounted within the print head assembly (14). (i.e. when removing or mounting the modules and circuit boards in the casing /housing). Please see the above rejection regarding Silverbrook (U.S. Pub. 2004/0135848) in view of Ishikawa (U.S. Pat. 6,618,068).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Uhlenhake whose telephone number is (571) 272-5916. The examiner can normally be reached on Monday - Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/JASON S UHLENHAKE/
Examiner, Art Unit 2853
August 21, 2008

Prima

/Julian D. Huffman/
Primary Examiner
Art Unit 2853
28 January 2008